

UNITED STATES DISTRICT COURT  
DISTRICT OF MINNESOTA

REGENTS OF THE  
UNIVERSITY OF MINNESOTA,

Plaintiff,

v.

AT&T MOBILITY LLC,

Defendant,

ERICSSON, INC., and ALCATEL  
LUCENT USA INC.,

Defendants-Intervenors.

Civil Action No. 14-cv-4666 JRT-TNL

**JURY TRIAL DEMANDED**

REGENTS OF THE  
UNIVERSITY OF MINNESOTA,

Plaintiff,

v.

SPRINT SPECTRUM L.P., et al.,

Defendants,

ERICSSON, INC., ALCATEL LUCENT  
USA INC., and NOKIA SOLUTIONS AND  
NETWORKS US LLC,

Defendants-Intervenors.

Civil Action No. 14-cv-4669 JRT-TNL

**JURY TRIAL DEMANDED**

REGENTS OF THE  
UNIVERSITY OF MINNESOTA,

Plaintiff,

v.

T-MOBILE USA, INC.,

Defendant,

ERICSSON, INC., ALCATEL LUCENT  
USA INC., and NOKIA SOLUTIONS AND  
NETWORKS US LLC,

Defendants-Intervenors.

Civil Action No. 14-cv-4671 JRT-TNL

**JURY TRIAL DEMANDED**

REGENTS OF THE  
UNIVERSITY OF MINNESOTA,

Plaintiff,

v.

CELLCO PARTNERSHIP  
D/B/A VERIZON WIRELESS,

Defendant,

ERICSSON, INC., and ALCATEL  
LUCENT USA INC.,

Defendants-Intervenors.

Civil Action No. 14-cv-4672 JRT-TNL

**JURY TRIAL DEMANDED**

**JOINT CLAIM CONSTRUCTION STATEMENT**

Pursuant to the Court’s Fourth Amended Scheduling Orders (“Scheduling Orders”) dated December 31, 2020, in each of the above matters,<sup>1</sup> Regents of the University of Minnesota (“University”), AT&T Mobility LLC (“AT&T”), Sprint Spectrum L.P. and Sprint Solutions, Inc. (collectively “Sprint”), T-Mobile USA, Inc. (“T-Mobile”), Cellco Partnership d/b/a Verizon Wireless (“Verizon”), Ericsson, Inc. (“Ericsson”), Alcatel-Lucent USA Inc. (“ALU”), and Nokia Solutions and Networks US LLC (“NSN”) hereby jointly submit this Joint Claim Construction Statement.

## **1. Claim Construction Hearing & Technology Tutorial**

As noted in the Scheduling Orders, the parties proposed February 2, 2022, for the claim construction hearing. The parties further propose that each side be given two hours of total argument (*i.e.*, the University will have two hours and the Defendants/Intervenors will have two hours), and that the disputed claim terms be argued on a term-by-term basis. Of course, the parties are happy to accommodate the Court’s preferred schedule and hearing format.

In the Scheduling Orders, the parties also proposed a technology tutorial on January 26, 2022. The parties believe a three-hour technology tutorial would be helpful to the Court in understanding the parties’ disputes. Under this proposal, each side would be permitted 90 minutes for a presentation regarding the technology at issue and there would be no submission of evidence.

The parties do not believe that a pre-claim construction conference is necessary.

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<sup>1</sup> ECF No. 267 in Case No. 14-cv-4666; ECF No. 305 in Case No. 14-cv-4669; ECF No. 290 in Case No. 14-cv-4671; ECF No. 292 in Case No. 14-cv-4672.

## 2. Agreed Upon Constructions

The following table includes a complete list of the terms and constructions on which the parties agree:

Terms	Agreed Constructions
“constellation”	“a set of points or symbols corresponding to the characteristics of a digitally modulated signal, such as amplitude and phase”
“constellation symbol”	“symbols corresponding to the characteristics of a digitally modulated signal, such as amplitude and phase”
“that are not restricted by the constellation of the information bearing symbols”	“that include symbols not in the constellation”
“that are not restricted to the finite alphabet of the constellation”	
“over a complex field without restriction to an alphabet size”	“that can produce a number of different complex values that are not limited to the number of constellation symbols that can be produced by the mapping unit”
“linear precoder comprises a unitary matrix”	“a precoder that performs a mathematical operation that, when expressed in its matrix form, includes multiplication by a unitary matrix”
“unitary matrix”	“a square matrix whose conjugate transpose is equal to its inverse”
“N <sub>t</sub> ”	“number of transmit antennas”
“diagonal matrix”	“a matrix having non-zero values only on the diagonal”
“block[] of ... symbols”	<u>Block of symbols</u> : “a group of symbols for transmission at a given time”  <u>Blocks of symbols</u> : “more than one block of symbols”

Terms	Agreed Constructions
“cyclic prefix length”	“the duration of a cyclic prefix”
“cyclic prefix parameter”	“a parameter representing the duration of the cyclic prefix”
“multiple-input multiple-output (MIMO) channel”	“a communication channel in which the transmitter transmits over multiple antennas and the receiver receives the transmissions over multiple antennas”
Order of operations for ’768 patent claims	<p><u>Claim 1</u>: The apparatus has components that perform the corresponding functions in each element in the order recited.</p> <p><u>Claim 13</u>: The system has a transmitter with components that perform the corresponding functions in each element in the order recited.</p> <p><u>Claim 21</u>: The steps of each element of the method claim 21 are performed in the order recited.</p>

The parties further agree that the terms of the patents-in-suit other than those identified above and in Exhibits A and B, for which the parties offer proposed constructions, should be given their plain and ordinary meaning consistent with Federal Circuit law.

### 3. Proposed Constructions and Evidence

Plaintiff attaches hereto Exhibit A and Defendants-Intervenors attach hereto Exhibit B, which set forth the parties' proposed constructions of each disputed claim term, phrase, or clause together with an identification of intrinsic evidence that support that construction, and an identification of any extrinsic evidence known to the party on which

it intends to rely either in support of its proposed construction of the claim or to oppose any other party's proposed construction of the claim.

#### **4. Witnesses and Expert Discovery**

Plaintiff identifies its expert witnesses, Dr. Jonathan Wells and Dr. Harry Bims. Plaintiff's experts may offer testimony in support of Plaintiff's constructions or to rebut Defendants' constructions. Defendants identify their expert witnesses, Dr. Alex Haimovich, Dr. Daniel van der Weide, and Dr. Stephen Wicker. Defendants' experts may offer testimony in support of Defendants' constructions or to rebut Plaintiff's constructions.

The parties propose making their respective experts available for live testimony at the claim construction hearing and at the technology tutorial, should the Court have any questions for the experts. The parties further propose that expert opinions be submitted via declaration along with a party's respective opening or responsive claim construction briefs. The parties further propose that any depositions concerning claim construction experts be completed in the time between the filing of the parties' responsive claim construction briefs and one week before the claim construction hearing.

#### **5. Technical Advisor**

##### *Plaintiff's Proposal*

Plaintiff does not believe a technical advisor would be helpful in this case. As set forth above, the parties anticipate having their respective technical experts available for both the technology tutorial and the claim construction hearing. Should the Court have technical inquiries, these experts will be more than capable of addressing the particular

subject matter of the patents-in-suit. Given the specialized nature of the technology at issue, locating a neutral technical advisor would likely be a difficult and time-consuming process that is unnecessary given that the parties can provide expert assistance should the Court desire.

*Defendants' Proposal*

Defendants believe that a technical advisor would be helpful to the Court in understanding the parties' disputes. As Judge Leung noted in his Report and Recommendation Denying Defendants' Motion to Reduce Asserted Claims<sup>2</sup>, the patents-in-suit relate to "an extremely complicated technology. . ." The parties expect to brief highly technical issues, including disputes regarding the nature of mathematical operations, such as linear transformations, matrix multiplication, spreading sequences, and Hadamard matrices, as well as physical layer processing techniques used to provide diversity in wireless communications systems, such as signal constellations, bit and symbol interleaving, and phase rotations. Defendants expect the parties to provide competing expert opinions regarding these issues, and as such, Defendants believe a neutral technical advisor would be helpful for the Court. Should the Court wish to appoint a technical advisor, Defendants are willing to meet and confer with Plaintiff in an effort to mutually agree on a technical advisor to recommend to the Court. Judge Schiltz recently utilized a similar procedure in a case involving complex technology and noted that the "technical

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<sup>2</sup> Dkt. Nos. 189, 206, 212, and 213.

advisor has been extremely helpful.” *See Mastermine Software, Inc. v. Microsoft Corp.*,  
0:13-cv-00971, Dkt. No. 211 (May 6, 2016).

Dated: October 20, 2021

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